

## **A Return on Investment Case Study of Iowa One Map: A Public-Private Partnership for the shared development of the Iowa Geospatial Infrastructure**

**ROI Project Background:** This project will be the third ROI study of the Iowa Geospatial Infrastructure (IGI), which is the state of Iowa's contribution to the National Spatial Data Infrastructure (NSDI). In the first ROI study, the IGI was defined as consisting of nine basic framework data layers (control, orthoimagery, cadastral, boundaries, transportation, hydrography, elevation, structures and address points), two service bureaus to work with state and county data producers, server and network infrastructure to deliver data and web services to users, and institutional agreements to share data, coordinate collections and support ongoing maintenance of the framework layers. Through data sharing, coordination and other services, the IGI was shown to have a 20 year Net Present Value (NPV - benefits minus costs) of \$271 million. While this ROI project was finishing in June 2008, devastating floods were affecting Iowa and the Midwest. An opportunity was seen to study the use of GIS during the disaster so additional funding was obtained from the USGS geospatial liaison's office for Iowa. Additional benefits of having IGI were calculated for a 20 year period. The flood ROI study showed an NPV of \$500 million, in addition to the original study's \$271 million NPV.

After completion, the IGI business plan and two ROI studies were presented to various decision makers, including local county supervisors and state executive branch department heads. While the ROI data made the IGI compelling, the economic downturn made allocation of new funding impossible. Despite these barriers to implementing all of its features, IGI concepts are being accepted for use in ongoing projects including statewide lidar elevation and orthoimagery, hydrography, transportation, geodetic control and cadastral. ROI data was used to justify \$650,000 in new funding for the first half of a geocoding project that will build structure footprints and address points statewide. Project proposals were also developed for temporary staff positions in state and county GIS service bureaus.

In the first ROI study, many benefits of IGI were studied including internal efficiencies as well beneficial public services. The benefits of having IGI to support agencies engaged in economic development (helping attract and locate sites for new businesses and industries) was briefly studied but not used in the ROI calculations. As part of this study, the IGI benefits of economic development will be fully studied and incorporated into the analysis of the overall IGI public-private partnership.

**ROI Project Scope:** While the first two ROI studies showed that development of the IGI should produce compelling benefits from increased efficiencies, avoiding duplicate costs and new capabilities and services for the public, presentation of this material to state decisions makers has not been enough to overcome the reluctance to commit to new funding necessary to build and maintain IGI. This issue comes down to who should bear the costs of building and maintaining IGI and direct its operations. It is obvious that the current patchwork of state agency projects, local government GIS programs and current federal assistance will not be enough to complete IGI in the next 10 years. The best and

possibly only viable option may be a public–private partnership that can leverage investments from local, state and federal government geospatial programs, and private businesses, particularly large utilities that maintain their own land base maps and infrastructure data sets.

We propose to perform ROI analysis on a statewide public-private partnership that will address the needs and interests of all stakeholders that will produce and consume IGI data, especially data needed for economic development activities and related decision making. Given the current economic situation, basing the partnership on increasing economic development activities should provide a major impetus for all groups to participate, as compared with the incentive for more specialized applications, such as environmental management or law enforcement. This partnership should work closely with utility companies (gas and electric, rural water, telecoms, broadband, and their location service providers such as Iowa One Call, etc.) who routinely recreate and maintain their own land base of parcels, city boundaries, streets and imagery, sometimes for the same service area many times over. Other types of Iowa businesses would benefit from access to the shared data resources including real estate services, property insurance providers, lenders, ag services, etc.

One thing that this public-private partnership can do that individual sector-based efforts could never do is to coordinate and cooperate on making workflows between sectors more efficient through data sharing, data standards and shared geospatial applications. One example would be the entire life cycle of a business development workflow, from initial interest from a company, to the real estate transaction, platting and review, zoning review, environmental assessment, utility planning and approval. It should be possible to streamline parts of the workflow through use of common data sets, having more and better data about a property, avoiding potential problems during reviews by having data upfront to make decisions. Our project will study available models for public – private partnerships within the state to see how they are organized and funded. One obvious model is the **Safeguard Iowa** public-private partnership whose mission is to leverage private resources with government resources and activities during natural disasters and other emergencies.

To distinguish the original concept of the physical, technology driven spatial data infrastructure called the **Iowa Geospatial Infrastructure**, we have named the public-private partnership **Iowa One Map**. While this project will spend considerable time and effort with the Iowa GIS community to define the geospatial technology needed for IGI, we will spend an equal amount discussing and defining the parameters of the public-private partnership with mid and upper level managers in government and business.

**Project deliverables** will include an ROI case study final report describing the **Iowa One Map** public-private partnership, including detailed metrics gathered from multiple agency and other IGI stakeholders. Individual agency ROI spreadsheets, financial analysis summary and the multi-agency business case for the project will be included. While the public agency financial data will be part of the public report, financial data from private entities may have to be aggregated for confidentiality issues.